ABSTRACT

A method for forming a trench in a semiconductor silicon substrate. An anti-reflective coating layer and a photoresist layer are formed over the substrate and patterned in accordance with a location for the trench. During the trench etch into the silicon substrate, the etch environment is monitored to detect the material of the anti-reflective coating layer. The etch process is controlled in response to detecting the removal of this material and the known etch rate differential between the anti-reflective coating material layer and the silicon substrate.